

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference P200301917WO		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/DK2004/000793		International filing date (day/month/year) 18.11.2004	Priority date (day/month/year) 18.11.2003	
International Patent Classification (IPC) or national classification and IPC D06F67/04, D06F95/00				
Applicant JENSEN DENMARK AS				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 3 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand 15.09.2005		Date of completion of this report 04.11.2005		
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Norman, P Telephone No. +31 70 340-4281		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/DK2004/000793

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☒ This report is based on translations from the original language into the following language English, which is the language of a translation furnished for the purposes of:
- ☒ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-11 as originally filed

Claims, Numbers

1-12 received on 15.09.2005 with letter of 15.09.2005

Drawings, Sheets

1/4-4/4 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V.

- 1 Reference is made to the following documents:

D1: EP 0609 945

D2: EP 0 791 094

2 INDEPENDENT CLAIM 1

- 2.1. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):

A method of advancing essentially rectangular pieces of cloth (8) to a feeder comprising securing of a piece of cloth (8) in securing means (21) that are configured on a rail conveyor (29); wherein the rail conveyor (29) with the piece of cloth (8) is conveyed in a direction of conveyance on an endless conveyor rail; and wherein the rail conveyor (29) with the piece of cloth (8) is advanced to a feeder; and wherein the piece of cloth (8) is transferred to the feeder, and a section of an edge on the piece of cloth (8) is found and that the section of the edge is straightened, following which the section of the edge is mounted in the securing means (21).

The subject-matter of claim 1 differs from this known method in that the piece of cloth is transferred from a transfer position configured in an inlet station to the securing means in that the securing means are conveyed in between two parallel sandwich conveyor belts configured in the direction of conveyance of the inlet station; and that the straightened edge of the piece of cloth is mounted in the securing means in the transfer position by the advancement by the sandwich conveyor belts of the piece of cloth from a position of introduction configured in the direction of conveyance ~~opposite the transfer position.~~

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as mounting the

piece of cloth in a simple and reliable manner.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The solution proposed above, namely to convey the securing means in between two parallel sandwich conveyor belts and mount the piece of cloth in the securing means in a transfer position by the advancement by the sandwich conveyor belts of the piece of cloth from a position of introduction configured in the direction of conveyance opposite the transfer position is not known from nor rendered obvious by the available prior art. Therefore Claim 1 appears to satisfy the requirements of Article 33 PCT with regard to novelty and inventive step.

4 INDEPENDENT CLAIM 8

- 4.1 Document D1, which is considered to represent the most relevant state of the art, discloses (the references in parentheses applying to this document):

A device for advancing essentially rectangular pieces of cloth (8) to a feeder comprising a rail conveyor (29) with securing means (21), said rail conveyor being configured to convey essentially rectangular pieces of cloth on a conveyor rail (29) in a direction of conveyance (16) between an inlet station and the feeder, wherein the securing means (31) are configured for securing a piece of a straightened edge of the piece of cloth (8); and that the securing means (21) are configured in such a manner as to run ~~between~~ *beside* two parallel sandwich conveyor belts (2,3) configured in the direction of conveyance of the inlet station;

From this, the subject-matter of independent claim 8 differs in that the securing means are configured to take over the straightened edge of the piece of cloth at a transfer position, which transfer position is configured in the direction of conveyance opposite the position of introduction.

The subject-matter of claim 8 is therefore novel (Article 33(2) PCT).

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(SEPARATE SHEET)**

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The problem to be solved by the present invention may be regarded as:
To pick up the edge of a cloth with a clamp from the exit of a sandwich belt conveyor.

The solution to this problem proposed in claim 8 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

There is no indication in D1 how to arrange the rail conveyor with the clamp to pick up the cloth in the end of the sandwich conveyor belt.

D2 discloses a sandwich conveyor belt which supplies a feed conveyor with pieces of cloth. A pair of clamps grips the corner portions of a cloth at the exit of the sandwich belt conveyor and pulls it onto the feed conveyor where the cloth is further spread. Although the claimed arrangement can be reconstituted by combining certain parts of apparatus of the prior art (in particular D1 and D2), this combination involves an inventive step since the skilled person must thereto modify structurally an apparatus of the available prior art, namely select which parts is to be kept, which parts to be modified and which modification is to be brought.

Claims

1. A method of advancing essentially rectangular pieces of cloth (5) to a feeder (60) comprising securing of a piece of cloth (5) in securing means (31) that are configured on a rail conveyor (30); wherein the rail conveyor (30) with the piece of cloth (5) is conveyed in a direction of conveyance (16) on an endless conveyor rail; and wherein the rail conveyor (30) with the piece of cloth (5) is advanced to a feeder 60; and wherein the piece of cloth (5) is transferred to the feeder (60), and a section of an edge on the piece of cloth (5) is found and that the section of the edge is straightened, following which the section of the edge is mounted in the securing means (31), **characterised in** that the piece of cloth (5) is transferred from a transfer position (14) configured in an inlet station (12) to the securing means (31) in that the securing means (31) are conveyed in between two parallel sandwich conveyor belts (17) configured in the direction of conveyance (16) of the inlet station; and that the straightened edge of the piece of cloth (5) is mounted in the securing means (31) in the transfer position (14) by the advancement by the sandwich conveyor belts of the piece of cloth from a position of introduction (13) configured in the direction of conveyance (16) opposite the transfer position (14).

2. A method according to claim 1, **characterised in** that the piece of cloth (5) is conveyed on the endless conveyor rail (21) with the straightened edge of the piece of cloth transversally of the direction of conveyance (16) or essentially transversally of the direction of conveyance (16).

3. A method according to any one of claims 1 - 2, **characterised in** that the piece of cloth (5) is transferred from the securing means (31) on the rail conveyor (30) to the feeder (60) in that the straightened edge on the piece of cloth (5) is conveyed in between a superjacent (63) and a subjacent

conveyor belt (64) configured at an end of a bar (65), which bar is arranged transversally to the direction of conveyance (16) on the feeder (60).

4. A method according to any one of claims 1 - 3, **characterised in** that a plurality of pieces of cloth (5) are mounted on each their rail conveyor (30), and that each rail conveyor with a piece of cloth is subsequently taken onto the endless conveyor rail (21), where the rail conveyors with pieces of cloth form a buffer storage.
5. A method according to any one of the preceding claims, **characterised in** that the rail conveyor (30) with the piece of cloth (5) is conveyed out of the buffer storage for being fed to the feeder (60).
6. A method according to any one of the preceding claims, **characterised in** that the rail conveyor (30) with the piece of cloth (5) is conveyed onto a section of the conveyor rail (26b) and is conveyed to another feeder (60).
7. A device for advancing essentially rectangular pieces of cloth (5) to a feeder (60) comprising a rail conveyor (30) with securing means (31), said rail conveyor being configured to convey essentially rectangular pieces of cloth on a conveyor rail (21) in a direction of conveyance (16) between an inlet station (12a, 12b) and the feeder, **characterised in** that the securing means (31) are configured for securing a piece of a straightened edge of the piece of cloth (5); and that the securing means (31) are configured in such a manner as to run between two parallel sandwich conveyor belts (17) configured in the direction of conveyance (16) of the inlet station; and that the securing means are configured to take over the straightened edge of the piece of cloth (5) at a transfer position (14), which transfer position (14) is configured in the direction of conveyance opposite the position of introduction (13).

8. A device according to claim 7, **characterised in** that the securing means (30) are a pair of conveyor clamps arranged on the rail conveyor (21) at a distance from each other and along an axis (X) which is perpendicular to the direction of conveyance (16) of the rail conveyor (30) or is essentially perpendicular to the direction of conveyance (16) of the rail conveyor.

9. A device according to any one of claims 7 - 8, **characterised in** that the conveyor clamps (30) are configured for securing the straightened edge of the piece of cloth (5) in a position transversally to the direction of conveyance (16) or essentially transversally to the direction of conveyance (16).

10. A device according to any one of claims 7 - 9, **characterised in** comprising a buffer area (32a, 32b), said buffer area being configured in the direction of of conveyance (16) on the conveyor rail (21) between an inlet station (12a, 12b) and said feeder (60).

11. A device according to any one of claims 7 - 10, **characterised in** comprising a buffer area (28a) configured on the conveyor rail (21) between the feeder (60) and the inlet station (12a, 12b).

12. A device according to any one of claims 7 - 11, **characterised in** that the conveyor rail (21) comprises one or more switchings (27).